

wherein the photocatalytic semi-conducting material comprises titanium oxide which is at least partly crystalized in anatase form and the photocatalytic coating material coats fibers in the portion of the fibrous material over a thickness of between 30 and 50 nm.

2. (Twice Amended) The substrate according to Claim 1, wherein the titanium oxide is in a form of one of particles in colloidal suspension and a powder.

3. (Twice Amended) The substrate according to Claim 1, wherein the photocatalytic semi-conducting material comprises a titanium oxide from one of thermal decomposition of organometallic and at least one metal halide precursor in the photocatalytic coating material.

12. (Canceled)

13. (Twice Amended) A process for manufacturing a substrate, comprising:
depositing a liquid binder to bind fibers and form a fibrous material; and
depositing a photocatalytic coating material in liquid phase over at least a portion of the fibrous material such that the photocatalytic coating material coats fibers in the portion of the fibrous material over a thickness of between 30 and 50 nm, the photocatalytic material including a photocatalytic semi-conducting material and an adhesion promoter for promoting adhesion to the fibrous material,

wherein the photocatalytic semi-conducting material comprises titanium oxide at least partially crystallized in anatase form.

15. (Twice Amended) The process according to Claim 13, wherein the depositing the photocatalytic coating material comprises depositing the photocatalytic material while the fibrous material is being formed into mats.

19. (Canceled)